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VOLUME XXVI

NUMBER 2

THE AGRICULTURAL STUDENT

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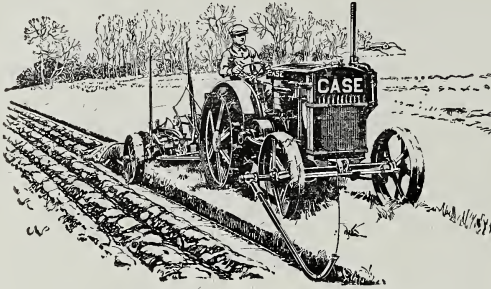


NOVEMBER, 1919

CONTRIBUTORS

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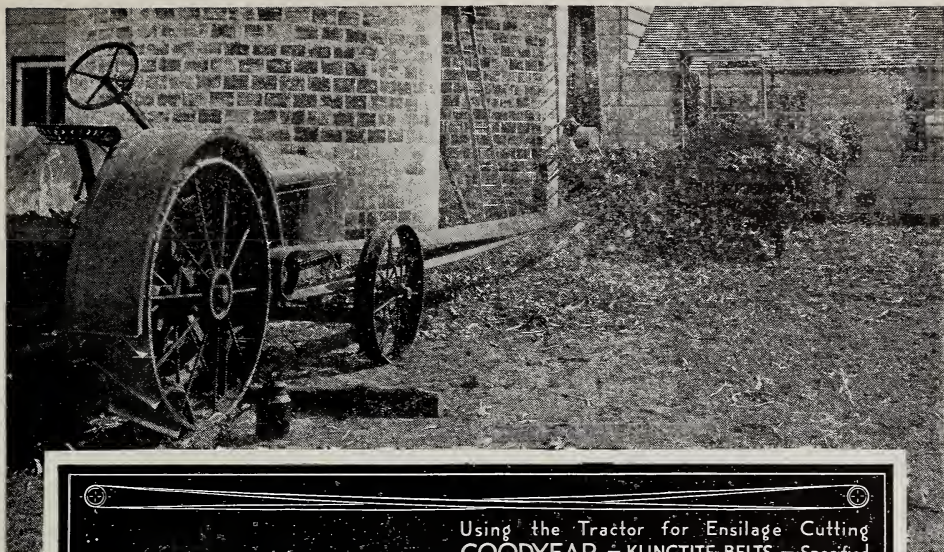


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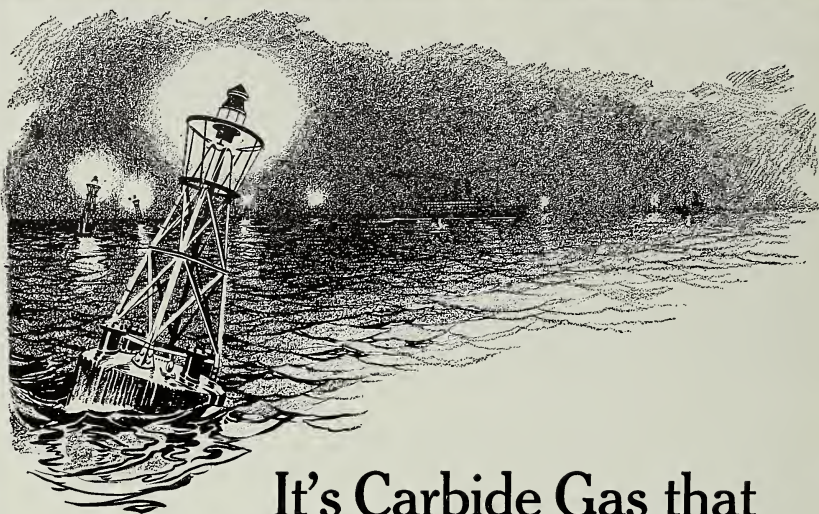
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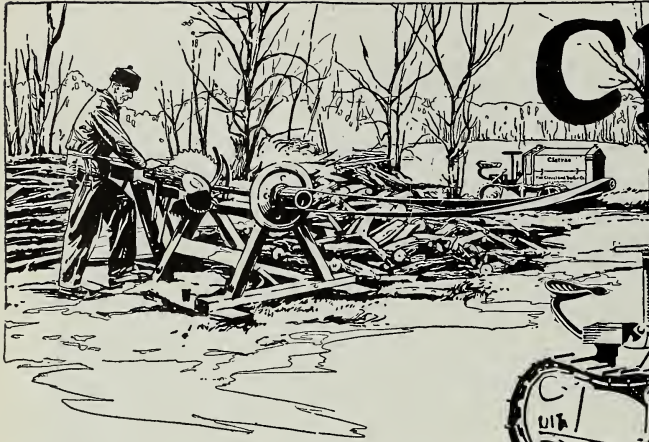
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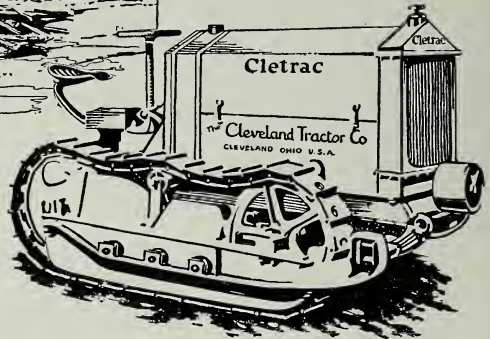




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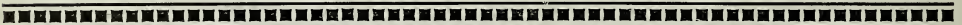




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The Agricultural Student

VOL. XXVI

OHIO STATE UNIVERSITY, COLUMBUS, OHIO, NOVEMBER, 1919

No. 2

THE FARM WATER SUPPLY

By VIRGIL OVERHOLT, Department of Agr. Engineering, O. S. U.

(The mortgage as a limiting factor in water supply systems is discussed by Mr. Overholt. He compares the various systems suitable to the farm.)

WE have been preaching running water for the farm home for twenty years and yet are just getting started. Sometimes, we think we preach this one thing too much. Eternal pounding seems to be the price of success. Two-thirds of the farm homes in Ohio today do not even have the convenience of a kitchen sink. Within the last month a Northern Ohio farmer stated that he had just paid off the last mortgage and was now ready to install a water system. He is fifty years old, and his wife is about the same age. Both are broken in health as a result of hard work. Had they looked upon a few conveniences such as running water as a necessity rather than a luxury twenty years ago, the mortgage would have been paid off just as soon, and they would probably be enjoying better health today.

The really important thing is to get people to decide to have running water in their home. The exact scheme by which this is accomplished should be determined by local conditions such as source of water supply, power available, and the size of pocketbook. No one will deny that the electrically driven and controlled pumping units are the last word in farm water supply. But about 50 percent of Ohio farmers are tenants with little hope of such a complete system. If the best cannot be had there are now many simple devices easy to install that will more than pay

for themselves every year of their use.

I will describe briefly some of the simpler, as well as the more elaborate, systems in use on Ohio farms.

About the simplest method of bringing cold water into the house is by means of the ordinary pitcher pump and kitchen sink. It can be used to bring water from a nearby well or cistern provided the vertical lift is not over 25 feet. There is little excuse for any farm not having, at least, such a simple device as this which will save miles of steps every year and cost but little to install.

Figure I shows another scheme which makes it possible to have hot water always on tap. Here a house force pump is used instead of a pitcher pump. By turning the three-way valve in one direction water can be pumped directly from the cistern. Turning it in another we obtain hot water by pumping cold water into the boiler. Turning it to a third point we obtain hot water without pumping. The water can be heated by a water front in the kitchen range or by kerosene heater as shown. Such a heater will require about a gallon of kerosene per day for ordinary usage.

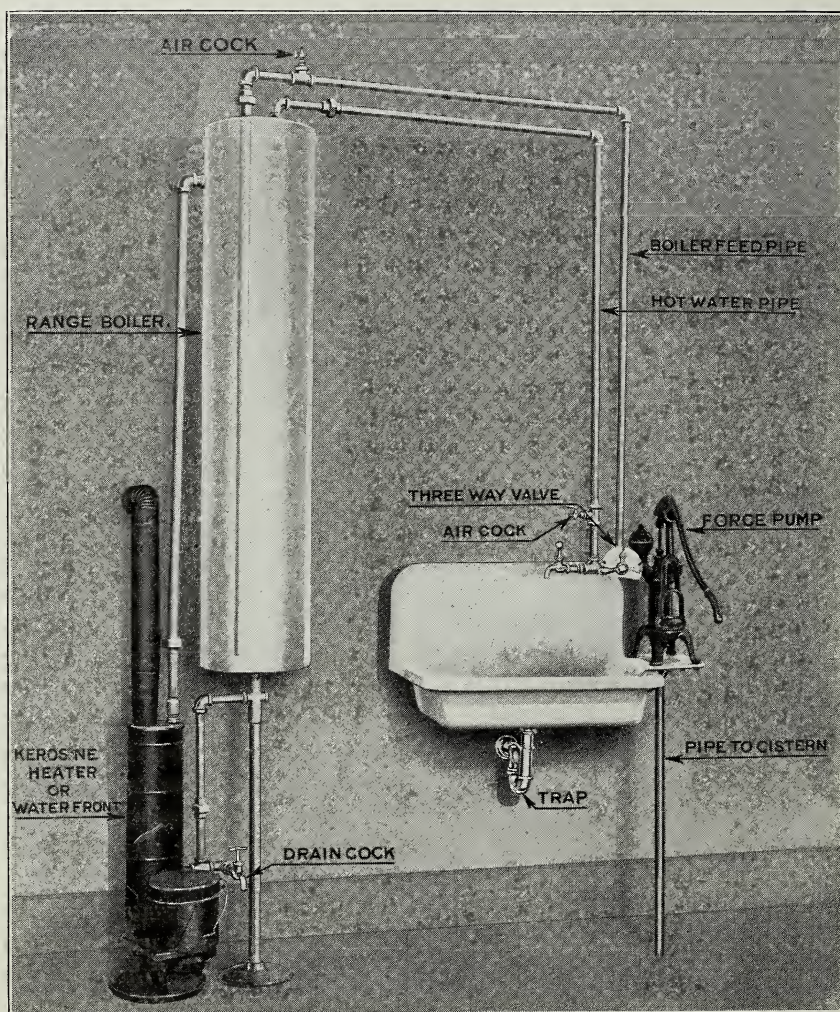
Where a good spring is available a hydraulic ram can be used to pump water under pressure. When once installed it will cost practically nothing to operate and requires but little attention. A number of Montgomery coun-

ty farmers have rams pumping water into pressure tanks under 50 to 70 pounds pressure. The entire village of Kingsville, Ohio, is supplied with water pumped by a double acting ram. This ram uses water from a pond to pump clean water into the village water tower.

Where there is a hill nearby and 20 to 50 feet higher than the house, water can be stored under satisfactory pressure by means of a concrete cistern

placed in the side of the hill. Water can be pumped into this cistern by a gasoline engine, electric motor, wind mill or hydraulic ram. With such a system there is practically nothing to get out of order and water is always stored under the same pressure. This type of water system is especially common in Eastern Ohio.

The hydro-pneumatic water supply system consists of a steel pressure tank into which water is pumped, compress-



A SIMPLE AND CONVENIENT HOT WATER SYSTEM

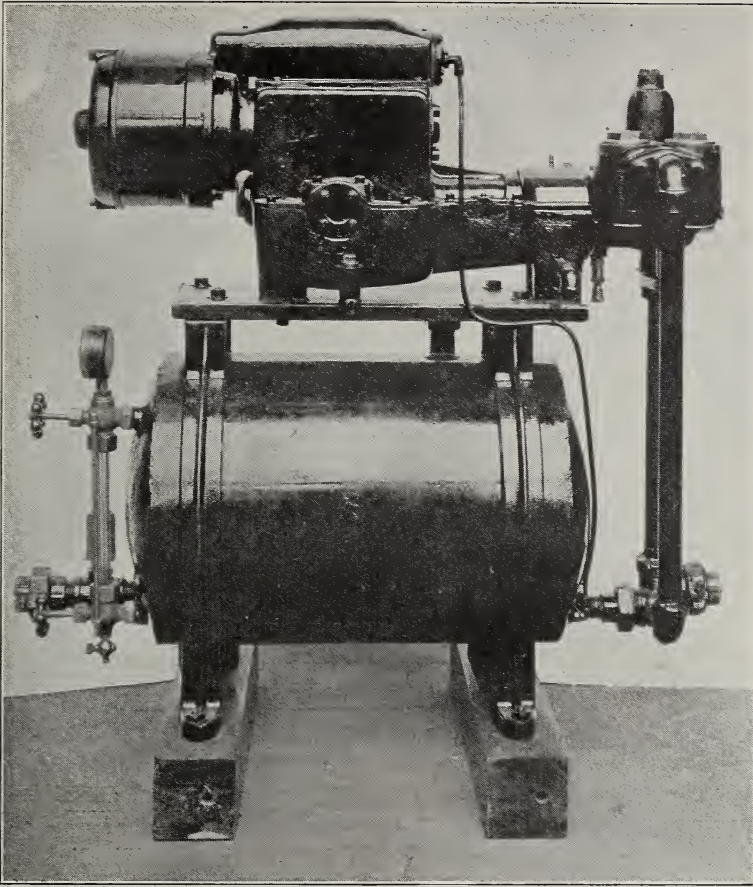


FIG. 1. THE AUTOMATIC ELECTRIC PUMPING UNIT

ing the air above the water. The expansion of this air will force the water to all parts of the service line. Some of the air is constantly being absorbed by the water. To replenish this air supply most pumps are provided with an air valve so arranged that by opening it a small amount of air is drawn into the pump at each stroke. The gasoline engine and electric motor are the chief sources of power for this system.

Somewhat different is the pneumatic or "air lift" system. With this we have a pressure tank into which air alone is pumped under pressure by an air compressor. An "air lift" pump is placed beneath the water in well or cistern and

connected with the air pressure tank. When a faucet in the service line is opened the expansion of the compressed air causes the pump to operate. (The "air lift" system can be used in deep wells and two or more "air lifts" pumps can be connected to the same pressure tank. All water is pumped directly from well to faucet. This type is not so common in Ohio as the Hydro-pneumatic system.

Where electric current is available the automatic pumping unit is the most satisfactory method of getting water into the farm house. These units are compact, easy to install and store only

(Continued on page 80)

FROM THE ROADSIDE WEED TO THE ARISTOCRATIC LEGUME

By PAUL GARLAUGH, County Agent of Wood County,

(Two years growth of sweet clover and two hundred pounds of acid phosphate made 30 bushels of wheat per acre on a run down farm in Wood County.)

WHY it has taken so long to change sweet clover "the weed" from the road side over to the chief legume crop of many farms I do not know. I am of the opinion that farmers have lost by not having known of its advantages sooner. I am a firm believer in sweet clover under many, not all, systems of farming.

All good farmers are interested in making their soils more productive. Sweet clover will assist by storing nitrogen as rapidly if not more so than any others such as the clovers or alfalfa. The physical condition of the soil is improved so greatly by sweet clover that I often think that the physical improvement is of greater value than the chemical. Wood County lands must be drained. The best farmers have told me that tile drains were placed eight rods apart in new ground and after farming twenty-five years the width was "split" but the drainage is now poorer with drains four rods apart than formerly with drains eight rods apart. Why is it? Less humus and fewer decayed root cavities which mean a firmer soil both surface and subsoil. Here is where sweet clover makes good. It is a two-year crop. Its root growth is second to none and more rapid in attaining maximum development than alfalfa.

There are hundreds of farmers in this and other countries who want to grow only such crops as can be hauled to the elevator. They agree that a clover crop is good for the land but they do not need hay. Corn and wheat or oats interest them. All right, why

not sweet clover in the small grain to be plowed down next spring for corn? The growth will be considerable above and below the surface and do a lot of good. Not the best possible system of soil improvement but a lot better than the one in vogue now. Many Wood County farmers have done this and are enthusiastic about it. Under this system of farming the plowing should be delayed until late spring to permit all the growth possible and then turn under well. The plows will pull heavy as the roots are tough.

As a pasture crop sweet clover is excellent. It will furnish more pasture after the wheat or oats is removed than any other crop. Weather conditions will determine its growth but 1000 pounds live weight of animal per acre is a fair average. The live stock like it though some farmers are of the opinion that animals will not eat it. The same criticism was often made of corn silage.

As a hay crop sweet clover is second to alfalfa and the clovers, but it makes a lot of good hay. If cut in the fall of the first year a ton to the acre of first class hay can be expected. It should be cut before the middle of October. The next spring a heavy hay crop can be expected but should be cut late in May for best quality. It may look quite stemmy but it is a good hay. Probably not so palatable as alfalfa but similar in chemical analysis. If cut with a mower the crop probably will be killed. If cut with a grain binder quite high and early a second crop may be obtained. I have talked to men who have obtained a second crop for seed in this

manner though none have been so fortunate in this county. It seems to me that if one has a good thick stand he had better plan on cutting it once only during the second summer. This may be for either a hay crop or a seed crop and if a second crop is secured so much the better, but don't be too certain of getting it.

This risk of killing the plant by cutting for hay the second summer is due to the manner of the plant's growth. The second growth develops from the lower branches or lower buds of the first growth. In cases of a good stand the plants are so thick that often no green growth is found within ten inches of the ground. This means leaving a stubble a foot high in order to obtain a second growth. Alfalfa and the other clovers develop a second crop from the crown but sweet clover does only for the first crop of the second year.

Soy beans may follow a hay crop as within three or four days after the plant is cut the ground will work so loose as to surprise one. The hay can be hauled as alfalfa or if cut by a binder set the bundles in narrow uncapped shocks to cure.

A number of farmers desire to use the crop for seed. I don't think a good stand of sweet clover makes the most seed. A medium stand is preferable so that numerous branches are found. It is cut with a binder, fitted with pans to catch shattered seed, placed under the elevator canvas and the deck. Information concerning this may be secured from Farmer's Bulletin 836 of the U. S. Department of Agriculture.

More information is needed relative to the seed crop as men sometimes get fifteen bushels per acre but seldom repeat the performance. I believe four to five bushels per acre can be depended upon.

I know of fields where a crop of sweet clover seed has been made and the field put in corn or sugar beets and no sweet clover has shown up. Fields of wheat or oats having sweet clover as high as the grain were poorly prepared for seeding. All I have seen of these show blossoms on the sweet clover indicating second year's growth and thus proving that preparation of the seed bed was not thorough enough to destroy the first year's growth. This condition occurs where wheat follows wheat or oats and disking has been the means of seed bed fitting. What these fields will show when seeded to small grain I do not know but I anticipate some sweet clover, volunteer, though not in a troublesome way.

Mr. J. W. Carpenter of Bowling Green, rented a farm which had the reputation of being of little value judging from the crops grown. Two years' growth of sweet clover was plowed under and two hundred pounds of acid phosphate applied. In 1919 thirty bushels of wheat per acre were threshed. It is not hard work to interest farmers of the community in sweet clover.

Many of Wood County's best farmers are now growing fields of sweet clover showing that its use is not confined to poor rundown land.

Sweet clover should be seeded in the spring as one would use red clover. Scarified seed should be used as a more uniform germination will be secured. It may be sown broadcast in wheat or a disc drill or disc seeder may be used. The drills are preferable. If seeded with oats, barley or spring wheat do not run seed spouts into grain spouts as the seed will be too deeply covered.

While a lad on a Clark County farm I was told by my father to go out along

(Continued on page 74)

THE DAIRY DEPARTMENT AND ITS RELATION TO THE MILK BUSINESS

By OSCAR ERF, Professor of Dairying, Ohio State University.

(How to get 34c in food value for 16c is told by Mr. Erf. He also shows how the best dairymen in the U. S. are only making 27c an hour for their labor.)

THE Dairy Department of the Ohio State University has received considerable criticism, through the city press and on the part of many consumers and has been accused of promoting a policy to increase the price of milk unduly, giving the advantage to the producer rather than the consumer. It is the desire of the Department that its position in this matter be clearly understood.

There can be but one motive on the part of anyone who is sincere and that is the welfare of the human race. A further development of the dairy business and the maintainance of an adequate milk supply is positively necessary for the development of man. Since milk is one of the most important foods and one for which there is absolutely no substitute for developing health and growth in children and for maintaining the health of the adult, it is of the utmost importance that the supply be kept uniform and the price constantly at a level that will insure a supply of milk sufficient to provide for the increasing demands of the growing population, which are inevitable as people become educated regarding the food value of milk.

If prices are too high, consumers are required to pay so much for milk that the consumption is consequently curtailed; production on the farm is unduly stimulated and whenever possible farmers will enter into milk production more extensively and will cease to provide the normal supply of other foods. This inevitably results in injury to the farmer who has made his plans with the

idea in mind that the high prices will continue.

On the other hand, it is possible for a time to hold the price so low that production will be curtailed. If the range between cost of production and price received for products is very great, then a reaction usually follows in which the difference is in the opposite direction. The full effects of low prices are not immediately apparent, due to the fact that no costs are available and by the time the haphazard producer realizes the fact that he is suffering a loss, the intelligent dairyman has had to modify his conditions or be forced out of business. As a result the dairy business becomes demoralized to a considerable extent.

Anyone who views the situation logically must realize that the Dairy Department must be neutral and view the situation from the standpoint of producers, dealers and consumers; for an equilibrium must be maintained in which all are treated justly and it is just as much the purpose of the Department to see that the consumer receives a good grade of milk at a reasonable price, as to assist the producer and dealer.

The great law of supply and demand governs all things finally. As the consumer recognizes the value of milk as a food, consumption is stimulated, while the increased wage of the industrial worker has made necessary an increased wage for the worker in the dairy, and has decreased production. The result of this has naturally been an advance in the price of milk. However, milk always has been and is today, the cheap-

est food product upon the market. One quart of milk containing from 3.5% to 3.8% butterfat, is equivalent in food value to .8 of a pound of boneless meat. A quart of milk can be purchased upon any market in Ohio today for from 14 to 16c; while a pound of meat will cost at least 34c.

A fact in connection with milk which is very often overlooked and of which many people are doubtless ignorant, is that it contains the growth promoting

fact and have made strenuous efforts to encourage production to such an extent that the supply might at all times meet the demand. Through education of the farmer, to the importance of weeding out poor cows and the development of better herds through systematic methods of feeding and breeding, the cost of production has been maintained at a point where milk can be sold at the very reasonable price which prevails today.

The cow testing association work



THE EVER FAITHFUL DAIRY COW IS OUR BEST FRIEND

materials so necessary to the growth and development of mankind. The development of the mind and body of every person depends largely upon the supply of milk, especially during early life and recent scientific discoveries have proven the theory that milk as a curative agent has a very important place in the diet of the adult.

The dairy business must be maintained. Both Federal and State Departments of Agriculture have realized this

which is a joint project, carried on by the United States Department of Agriculture and the State Agricultural Colleges, has been of inestimable value. The butterfat production of the average cow in the United States is 133 pounds. The Ohio cow testing associations have been able to raise this average 105%. The Barnesville Cow Testing Association, in which there are about 300 cows, holds the record for

(Continued on page 76.)

SELECTING APPLES FOR EXHIBITION

By F. G. CHARLES, Instructor in Pomology, O. S. U.

THE selection of fruit for exhibition purposes requires considerable time and care backed up by good judgment and a broad knowledge of fruits in general and a specific appreciation of the fine points that go to make up the sum of qualities required for a perfect fruit. To this should be added experience or the practice of putting this judgment and knowledge into use. Judgment is the fundamental requirement of a good exhibitor and good judgment requires knowledge and experience. Every exhibitor judges his own fruit in selecting his exhibit and in so doing places his ability in competition with the ability of his competitors. So with the exception that some are more fortunate in having better fruit from which to make their selections, competitive exhibition of fruit is really competitive exhibition of judgment, knowledge and experience. From the appearance of the displays of fruit often to be seen at our county fair, it would seem that some of these requirements are sadly lacking in the exhibitor. But in the belief that it is largely a lack of experience and knowledge of the qualities required, rather than a matter of judgment, a brief consideration of the subject at this time while the fairs are fresh in our minds, may not be out of place.

Every judge has in his mind a certain standard of qualities with which he compares each display. The number of these required qualities may vary some with the different judges and also the emphasis that is placed on each quality, but in general they are very similar and often they are determined for the judge by a committee in charge of the Fair or Show. This standard of

qualities is commonly referred to as a record score.

If one is to be a successful exhibitor, then it is necessary that the points on the score card be thoroughly understood. For if the fruit is to be judged by a certain standard, it should by all means be selected according to this same standard and not in some haphazard way.

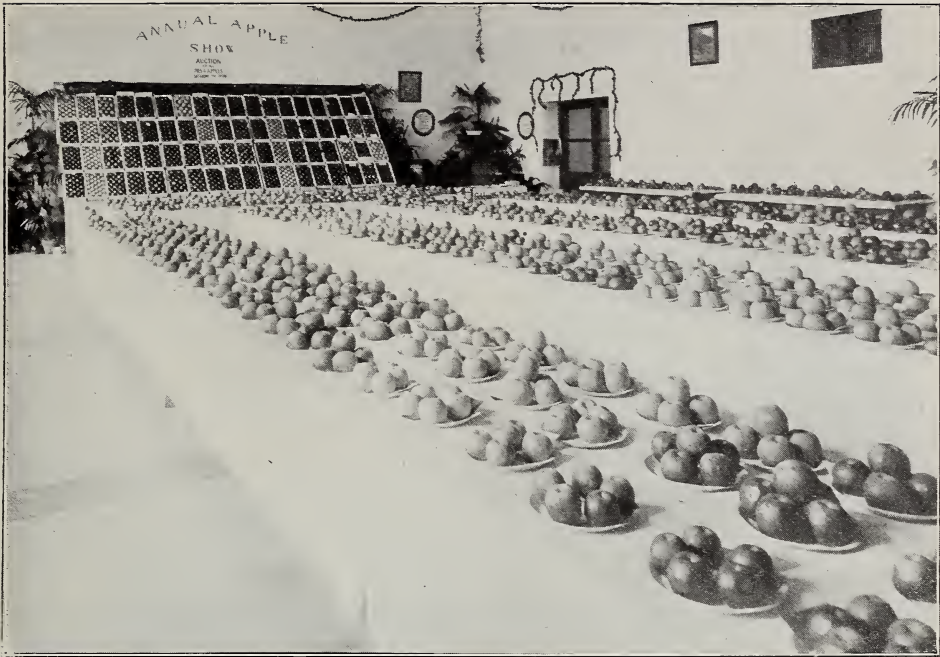
The score cards used by the Ohio State Horticultural Society at their last apple show is typical and can well be taken as a standard for other shows and fairs through the State.

Apples are commonly exhibited in five different ways, viz., plates, trays, baskets, boxes and barrels. The first two are more frequently used and of these the plate exhibits make up by far the greatest number and the others will not be considered in this article. The following is the score card for Plate Exhibits, with the number of points allotted to each:

Size (full size, but not overgrown and all five specimens uniform)	35
Color (typical and well colored and uniform).....	15
Form (typical of variety and uni- form)	15
Condition (free from defects and not over-ripe)	35

100

The size of apples of any variety varies greatly as well as the size of the different varieties. So while an apple may be large for the variety, the same size in another variety would be considered small. For example a Jonathan $3\frac{1}{4}$ inches in diameter would be considered large, while a Rhode Island Greening



A GOOD DISPLAY OF PLATE EXHIBITS

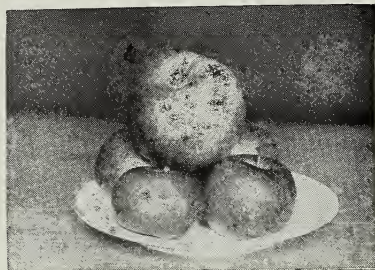
of the same size would be just within the lower limits for show purposes. It is, therefore, apparent at once that a standard size must be set for each variety. The one adopted by the Ohio State Horticultural Society is as follows:

Variety	Diameter in Ins.	
	Min.	Max.
Baltimore	$2\frac{7}{8}$	$3\frac{1}{8}$
Baldwin	$3\frac{1}{8}$	$3\frac{1}{4}$
Banana	3	$3\frac{3}{8}$
Belmont	$2\frac{7}{8}$	$3\frac{1}{8}$
Ben Davis	3	$3\frac{3}{8}$
B. B. Davis.....	3	$3\frac{1}{4}$
Delicious	$2\frac{7}{8}$	$3\frac{1}{8}$
Ensee	$3\frac{1}{4}$	$3\frac{5}{8}$
Gano	3	$3\frac{3}{8}$
Grimes Golden	$2\frac{7}{8}$	$3\frac{1}{4}$
Hubbardston	3	$3\frac{3}{8}$
Jonathan	$2\frac{7}{8}$	$3\frac{1}{4}$
King	$3\frac{1}{4}$	$3\frac{5}{8}$
McIntosh	$2\frac{7}{8}$	$3\frac{1}{4}$
Northern Spy	$3\frac{1}{4}$	$3\frac{5}{8}$

Paradise Sweet	3	$3\frac{3}{8}$
Red Canada	$2\frac{7}{8}$	$3\frac{1}{8}$
Rome Beauty	$3\frac{1}{4}$	$3\frac{3}{4}$
Ralls Janet	$2\frac{7}{8}$	$3\frac{1}{8}$
Rambo	3	$3\frac{3}{8}$
R. I. Greening.....	$3\frac{1}{4}$	$3\frac{5}{8}$
Stayman	$3\frac{1}{4}$	$3\frac{3}{8}$
Stark	$3\frac{1}{4}$	$3\frac{5}{8}$
Sutton	$3\frac{1}{8}$	$3\frac{1}{2}$
Wagener	$3\frac{1}{8}$	$3\frac{1}{2}$
Wealthy	$3\frac{1}{8}$	$3\frac{1}{2}$
Winesap	$2\frac{7}{8}$	$3\frac{1}{8}$
Wolf River	$3\frac{3}{8}$	$4\frac{1}{4}$
White Pippin	$3\frac{1}{8}$	$3\frac{3}{8}$
York Imperial	$3\frac{1}{8}$	$3\frac{1}{2}$

The score card calls for an apple of "full size, but not overgrown." That is it must be some place within the limits set for the variety. Five specimens are required for a plate and all five specimens must be uniform, i. e., the same size. This matter of uniformity not only of size, but of color and form is very important. There is a tendency

in selecting a plate of apples to choose the largest one that can be found for the standard. It is hard then to find four more that will match it in size and the result is usually a plate of five different sized apples. See figure No. 1. To overcome this difficulty, choose one



WRONG SELECTION FOR SIZE

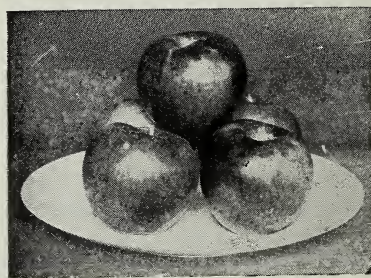
apple of such size that there will be little difficulty in finding four others that will exactly match it. See figure No. 2. This will also give more opportunity for consideration of the other points on the score card.

The second point to consider is color. As there is a standard of size for each variety so there is a certain standard of color that is recognized as characteristic of each variety. The following table will serve as a guide in this matter:

<i>Variety</i>	<i>Min. Pct. of surface colored</i>	<i>Character of Coloring</i>
Baltimore	75	Red Striped
Baldwin	90	Solid Red
Banana	90	Light Yellow with Blush
Belmont	90	Light Yellow
Ben Davis	75	Red Striped
Black Ben Davis	90	Solid Red
Delicious	75	Red Striped
Ensee	75	Red Striped
Gano	90	Solid Red
Grimes Golden.....	90	Light Yellow
Hubbardston	75	Red Striped
Jonathan	90	Solid Red

King	75	Solid Red
McIntosh	75	Solid Red
N. Spy	75	Red Striped
Paradise Sweet.....	90	Greenish Yellow with Red Blush
Red Canada.....	90	Solid Red
Rome	75	Red Striped
Ralls Janet	50	Red Striped
Rambo	50	Red Striped
R. I. Greening.....	100	Green
Stayman	75	Solid Red
Stark	75	Red Striped
Sutton	90	Solid Red
Wagener		Red Striped
Wealthy	50	Solid Striped
Winesap	90	Solid Striped
Wolf River	75	Red Striped
White Pippin.....	90	Light Greenish Yellow
York Imperial.....	75	Solid Red

Uniformity must again be considered. Each apple must not only have the required amount of the proper col-



CORRECT SELECTION FOR SIZE

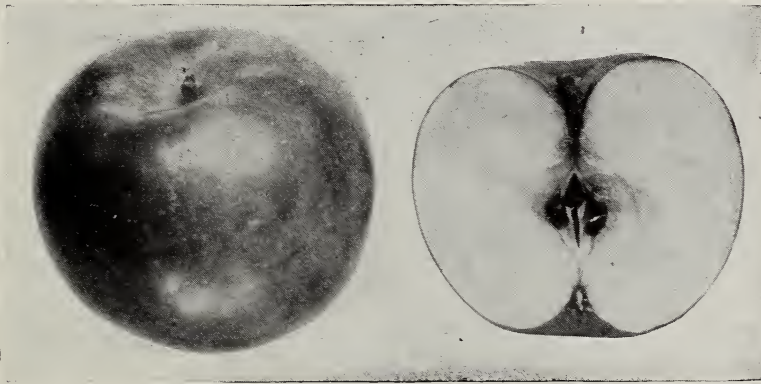
or, but the shade and distribution of the color must be similar in all five specimens.

The third point in the score card is form. Like size and color, the form or shape varies greatly within the variety. When grown in one part of the country a variety may have a form quite different from the same variety grown somewhere else so it is harder to set a general standard for form than for either size or color. Figure 3 illustrates one form.

In the following table the form generally recognized as being correct for the variety as grown in Ohio is briefly given:

<i>Variety</i>	<i>Form</i>
Baltimore	Oblate, regular.
Baldwin	Roundish oblate, inclined to conical.
Banana	Oblate, inclined to roundish or slightly conical.
Belmont	Roundish.
Ben Davis	Roundish conical, some nearly globular, others nearly ovate, sometimes inclined to be

	conical, often irregular.
N. Spy	Roundish, conical.
Paradise Sweet	Oblate-conic, with broad base.
Red Canada	Oblate, inclined to conical.
Rome Beauty	Roundish inclined to conical with broad flattened base.
Ralls Janet	Roundish, conical.
Rambo	Roundish-oblate.
R. I. Greening	Roundish to roundish-oblate, sometimes inclined to conic.
Stayman	Roundish conical.



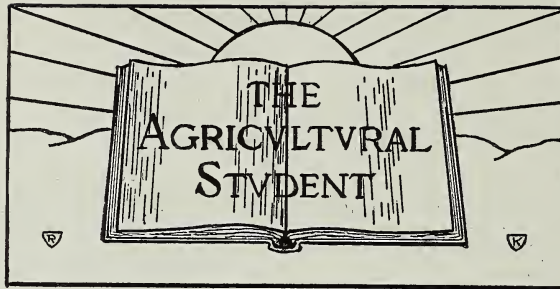
McINTOSH—ROUNDISH, OBLATE, SLIGHTLY CONICAL

	ribbed.
Black Ben Davis	Roundish conical.
Delicious	Variable, oblong-conic, usually unsymmetrical and strongly ribbed.
Ensee	Roundish, oblate, unsymmetrical.
Gano	Roundish, conical.
Grimes Golden	Roundish or slightly oblong, nearly equally flattened at both ends.
Hubbardston	Nearly round.
Jonathan	Roundish to roundish conical.
King	Roundish, oblate inclined to conic, regular or slightly ribbed.
McIntosh	Roundish oblate or slightly

	conical.
Stark	Roundish inclined to conical.
Wagener	Oblate, regularly ribbed or five sided.
Winesap	Roundish conical.
Wolf River	Oblate.
White Pippin	Oblate to truncate-oblong, often oblique.
York Imperial	Exceedingly variable, from truncate-oblong and only slightly elliptical to very flat oblate and extremely elliptical, axis oblique.

Here again the five specimens chosen must be uniform. It would be hard to over emphasize this matter of uniformity for all the points to be considered it seems to be the one least understood and the most overlooked. So by all

(Continued on page 74.)



OF
OHIO STATE UNIVERSITY

A Medium for Exchange of Ideas Between College and Farm

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ALL TOGETHER, LET'S GO.

We are having a revolution in Agriculture. How many would have thought fifteen years ago that by present methods of organization the farmers would be holding conferences with national officers? But today it is true, and what has been the big factor? Chiefly *cooperation* and *organization*. It is through this means that the farmers express themselves so the country knows their views. Such organizations as the Farm Bureau and Grange are making good strides in the right direction.

It is only through organization that Agriculture can ever hope to demand that to which it is entitled: fairness, justice, and a reasonable profit on agricultural products. We have made some mighty big steps toward our goal, but it will take many more line plunges to put our ball behind the goal posts.

To us as students rests a certain duty. What are you doing to help the cause along? You should be giving your time and moral support where possible to this big cause. Many students too often forget this. You should be helping, aiding and assisting the various clubs and societies here at school, and in your home communities anything that will help our big purpose, *organization*. Capital is organized, labor is organized, industry is organized, and for Agriculture to uphold her end at all times it too must be organized. So let's all get behind and boost our established organizations, and any other good movement that happens to come along.

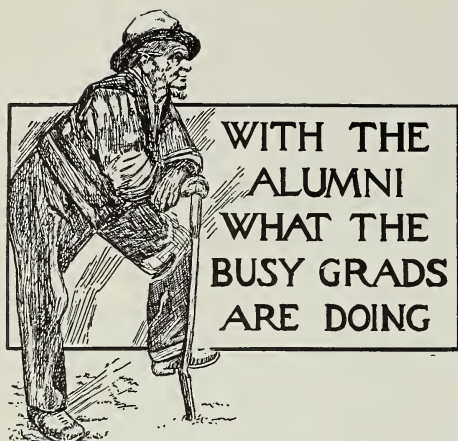
A COLLEGE EDUCATION

Here we are back in college again, some of us for the last year, others for the first. All of you no doubt have stopped and asked yourself is it worth while? Can I afford to spend the time to go to an Ag college? It used to be that any man who saved his money, and was industrious could soon make a payment on a farm. By working hard, using ordinary business judgment and farming economically he could pay out on his farm.

But it is different now; men must work as much if not more with their brains than their hands. A man with a limited education has a hard time to rise. Let us quote what the department of Education has to say. Less than 1 percent of American men are college graduates and yet this 1 percent has furnished 50 percent of the constitutional conventions, 55 percent of the Presidents, 36 percent of all the members of Congress, 47 percent of the speakers of the House of Representatives, 54 percent of all Vice-Presidents, 62 percent of all secretaries of state, 50 percent of all secretaries of treasury, 67 percent of the attorney generals, and 69 percent of the Justices of the Supreme Court.

They further say that it is estimated a man with no schooling has one chance in 150,000 of performing distinguished service; the man who has elementary education has four times the chance of the uneducated man; the high school graduate has 87 times the chance of the man with no schooling and the college graduate has 400 times the chance.

Those figures are worth looking at a second time. They can be applied to Agriculture just as well. Now my young friend who is just starting in college no doubt you will feel like quitting many times, for I have had the same notion back in my freshmen days. But before you decide just recall these figures. Do you want to stay in 87 times class, of the high school graduates, or do you want to jump up to the 400 class? It is worth thinking about, isn't it? Don't do anything hasty, there is something in store for you if you only want it.



Albert C. Workman, who received his M. Sc. in 1919, is now professor of Agricultural Chemistry and also Farm Supt. at Bethany College, W. Va.

Dennis E. Haley, who registered for Ph. D. in 1919, has returned to Penn State College as Asst. Prof. of Agr. Chemistry. He will finish his thesis in absentia and return to Ohio at some later date to complete the work for the degree.

J. J. Riggle, M. Sc in 1919, began his duties as county agent of Erie County, July 1, 1919.

Geo. Valley, '17, received his Masters degree in 1919 and is continuing work in the department, being registered for Ph. D.

Geo. McClure, '14, after four years as chemist at the Wooster Experiment Station, is registered for his Ph. D., majoring in Agr. Chemistry.

O. V. Bliss, '16, is managing his father's fruit farm at Avon, Ohio.

A. A. Abel, '18, formerly a pilot in the Army Air Service, is now employed in city work in Ironton, Ohio.

Chas. H. Adams, '18, is a very successful fruit grower at New Waterford, Ohio.

Robert Bruce, '19, is now teaching farming at Ravenna, Ohio.

Bob Gardner, '19, has married and taken up the position of assistant county agent of Licking Co.

Wallace Hammond, '18, is married and has started farming at St. Clairsville, Ohio.

J. W. Montgomery has recently returned from France and gone to teaching Agriculture in the Marion High School.

William Skelley, '18, is in the Animal Husbandry Department of the New Jersey Experiment Station.

D. L. Barnes is doing Agricultural school work in Montgomery Co., near Dayton.

Bertram Zimmerman, '17, holds a position in the Kansas Agricultural College.

E. L. Sanders, '19, is teaching in the Southern schools.

E. R. Raymond is assistant manager of Curles Neck farm at Richmond, Va.

Ernest Koheiser is with the University dairy and is registered in the University for some advanced work.

E. Fox, '14, is farming 102 acres on shares in Green Co., Xenia, Ohio.

John Munger is farming with his father in Green Co., Xenia, Ohio.

Wm. Gowdy, '17, is farming on shares in Green Co., Xenia, Ohio.

Uri Brunning, '16, is farming in Wood Co. He had out 75 acres of sugar beets last year.

Henry C. Sloether, '17, is farming near Jersey City, Wood Co., Ohio.

Carl Lowe, '17, is in the insurance business at Medina.

Herbert Marshall, '17, who is farming in Allen Co. (Beaver Dam), is rejoicing over a new 10 pound baby boy.

F. C. Marshal (Red), '17, formerly of the animal husbandry department, is farming in the same neighborhood.

W. E. Spalding, '16, located at Conneaut, is with the Farmers Fertilizer

Co. He has 22 counties in northeastern Ohio.

E. H. Bretschneider, '15, is with the Kauffman-Lattimer Co., of Columbus. He is in the scientific apparatus department.

J. R. Stear, '16, has been discharged from the service and has accepted a position in the Penn State Dept. of Agriculture, Bureau of Entomology.

D. M. DeLong, M. S. '16, has been discharged from the service and is with the Bureau of Economic Entomology of Pennsylvania.

Ernest Chambers, ex. '19, has been released from the service and is with the Federal Horticultural Board, Washington, D. C., working on Greenhouse pests.

W. H. Larrimer, '13, has been discharged from service and is in charge of the Entomological Laboratory of the Indiana Bureau of Entomology.

C. K. Brain, '12, M. A. '13, is located with the Division of Entomology, Pretoria, South Africa.

C. L. Metcalf, B. S. '11, M. A. '12, Professor of Entomology at Ohio State received his Ph. D. at Bussey Institute this year.

D. C. Mote, '10, M. A. '12, formerly of Ohio Agr. Expr. Station, is now State Entomologist of Arizona.

C. A. Weigle, M. A. '17, has been discharged from the service and is in charge of the Greenhouse Insects Investigation of the Federal Horticultural Board at Washington, D. C.

F. B. Paddock, M. S. '17, formerly State Entomologist of Texas, is now connected with the Department of Entomology of the Iowa Agr. Experiment Station and is state apiarist.

Paul Adams, '13, recently returned from the aviation service, is now back growing fruit on his farm north of the city.

A. S. Clark, '18, recently returned from overseas and is now in charge of the home farm near Medina, Ohio.

Ed. Silver, '19, was with the Agricultural Engineering Dept. on the tractor demonstrations held through the state during the past summer, and has returned to Ohio State with that department.

James A. Howenstein, '19, and Wendell P. Miller, 19, formed the Agricultural Engineering Co. last spring, doing general work thruout the state. John S. McCoy, '19, has been engaged by them and the three are taking a trip to Kansas, where they will do some construction work.

S. M. Salisbury, '12, is on his second year as county agent of Medina county. Since his arrival there he has done much to consolidate the farmers and to promote scientific agriculture.

T. D. Phillips, '08, has resigned his position as assistant professor of Rural Economics at the University, and is now with the State Board of Agriculture.

D. D. Hughes, '16, is with the Rural Economics Department at O. S. U.

F. N. Morrison, '16, has recently accepted the position of cost accountant with the U. S. Department of Agriculture. He will work here for the present.

H. A. Albyn, ex '08, is manager of the Everitt Fruit Company's Orchards, one being located near Newark, Ohio.

Arthur J. Copeland, '16, has "gone west," actually. He is in the University of Montana Extension Department as Farm Management Demonstrator.

H. F. Cotteman, '16, is now at College Park, Maryland. He is an instructor in the Department of Rural Economics at Maryland Agricultural College.

(Continued on page 94.)

Home Economics Department

VOCATIONAL EDUCATION

IN HOME ECONOMICS

VOCATIONAL Home Economics work as provided for by the Smith-Hughes Act, was started in Ohio, February 1, 1918. The field work in Ohio is carried out in three types of schools; the all day school, the part time and the evening schools. It recognizes home making as a vocation and is designed to train girls and women for work in their own homes as well as for employment in the home making occupations.

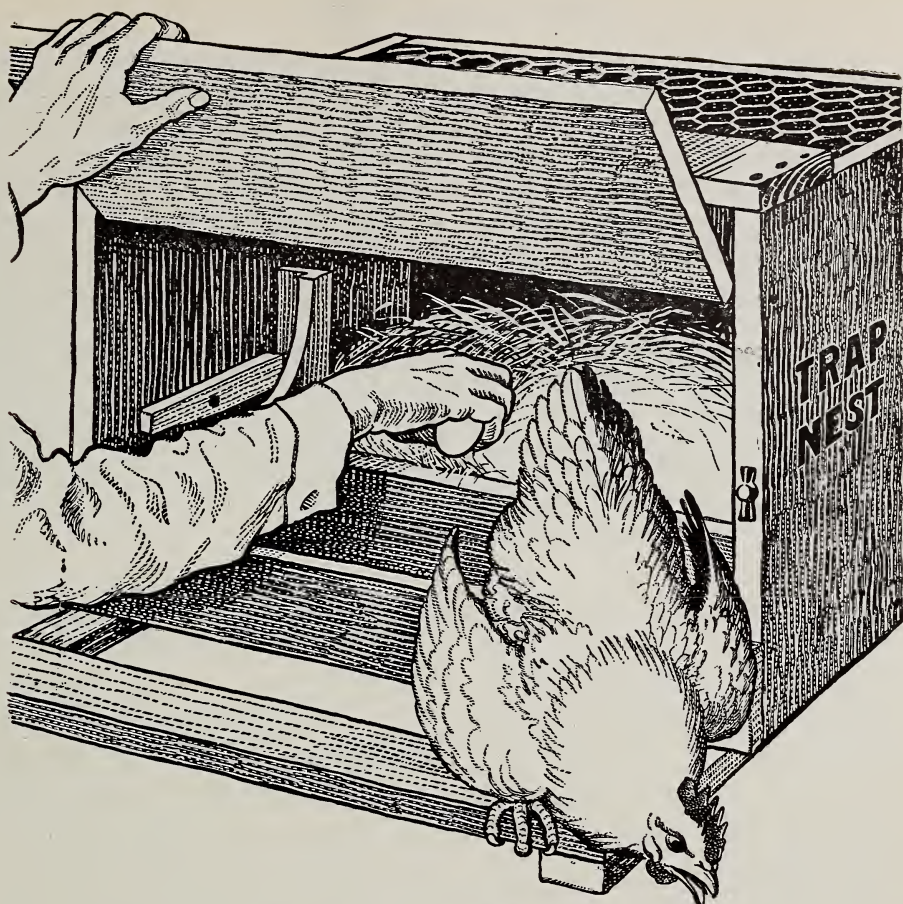
The all-day schools which number twenty-four in Ohio are chiefly located in high schools, although there are two located in elementary schools for girls over fourteen years of age who are still in elementary grades. In high schools the course may be completed in two years or may be extended over the whole four years, but in elementary schools covers one year only. This course is planned to use five double periods, of ninety minutes each, per week for Home Economics and five single periods of forty-five minutes each and one ninety minute period per week for related subjects, an average of 150 minutes per day. Nearly all high schools of the State have a five hour day with six or seven single periods. Therefore, with this amount of time given to Home Economics and related subjects, one-half of the school day is given to Vocational Home Economics. The time requirement of this course is for the small high school, that is, in towns under 25,000 population. Some of the subjects included in the course of study are: textiles, garment making,

and clothing design, drawing and house designs, food study, planning of meals, and elementary dietetics, hygiene, sanitation, home nursing, home management, and child care. Such schools are already established in Ashtabula, Barberton, Bryan, Bethel Township in Miami County, Covington, Fremont, Gallipolis, Lima, (three schools), New Vienna, Martel, Oberlin, Malta, McConnellsville, North Fairfield, Portsmouth, Sandusky, Strassburg, Steubenville, Wapekoneta, Van Wert, and Waverly. The teacher in this type of school is employed for 12 months and when not teaching is a community leader in Home Economics problems.

The part-time school has been promoted for girls and women over the age of 16 years who are employed in factories, shops, schools and in the household. The course requires that 144 hours be devoted to Home-making and related subjects. The work may be arranged in any one unit, as of foods, clothing, child care, etc., or to cover several units. Two centers for such schools are now in operation in Ohio.

The Evening Course is for women over 16 from factories, shops, homes and schools. Each lesson is two hours long and from 8-15 lessons are required to a unit. The course is composed of short units on various subjects and may be completed in eight lessons. Such schools have already been established at Lima, Ashtabula Harbor, Wapek-

(Continued on page 72)



More Eggs or Money Back

The money paid for Purina Chicken Chowder will be refunded if hens, when fed Purina Chicken Chowder with Purina Scratch Feed as directed, do not lay more eggs than when fed any other ration. This unusual guarantee is based upon the demonstrated egg-producing qualities of the correctly balanced ration. The reason why this broad guarantee is possible is that

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when fed as directed, supply a perfect balance of yolk and white elements above the requirements for body maintenance. Based on the statements of one of the most prominent State Experiment Stations, it is shown that:

	Yolks	Whites
50 lbs. of Purina Scratch Feed are capable of producing.....	123.75	71.06
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A 100-lb. ration (50 lbs. of each) is capable of producing..... 214.77 212.33

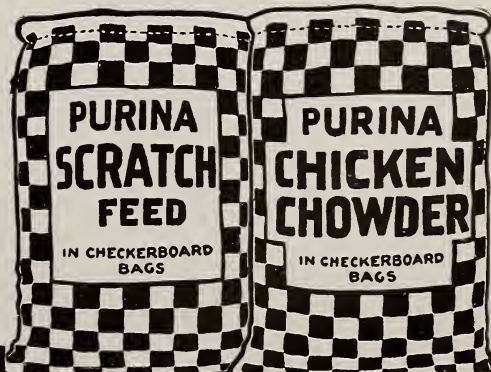
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(Continued from page 70)

oneta, Coshocton, North Philadelphia and Minster.

The instructors for these schools must meet definite requirements as to previous training. A four-year course in Home Economics with a B. S. degree, two years in Home Management, 18 hours of professional educational work, special practice teaching in practice schools and special qualifications for this type of work are prerequisite. The Teachers Training Course is offered at Ohio State University, the University of Cincinnati, and Miami University at Oxford. Special practice schools are situated at Canal Winchester, Reynoldsburg, North High School at Columbus, Ohio, at William McGuffey High School at Oxford and East High School at Cincinnati, Ohio. These teachers are paid by the national appropriation of a definite sum to be spent for the salaries of the teachers and supervisors of Home Economics Education.

A bill entitled "A Bill to Provide for Cooperation with the State in the Promotion of Vocational Education in Home Economics and to Appropriate Money and Regulate its Expenditure," is to be introduced into Congress and it should have the active support of every member of the Home Economics Association and of every one to whom it may be of interest. This bill is to substitute for the portion of the Smith-Hughes Act which pertains to Home Economics. The act as it stands provides for a fund for vocational education of two classes of agriculture, and of trades and industry. The fund for education in Vocational Home Economics is included in that for Trades, and Industry and Home Economics receives only 20% of the amount. The appropriation for Trades and Industry is

based on the urban population of a State. In states with large cities and a large urban population the Home Economics fund is adequate but in some of the western agricultural states the amount is almost too small for any practical purpose. While the Act recognizes the fact that Home-making is a vocation, yet it ignores the fact that as many, if not more, women are engaged in home-making as a vocation as there are in industries or in agricultural pursuits, and that vocational home-economics is designed to train girls and women for work in their home-making occupations. There are about twenty million homes in the United States, furnishing an occupation into which more workers go than into any other single trade or profession.

A classification of the groups of girls and women who should be reached by classes in various types of schools will show briefly the extent of the field:

1. Groups of home-makers who have definite home problems to solve.

2. Groups of workers in outside occupations who expect soon to be home-makers.

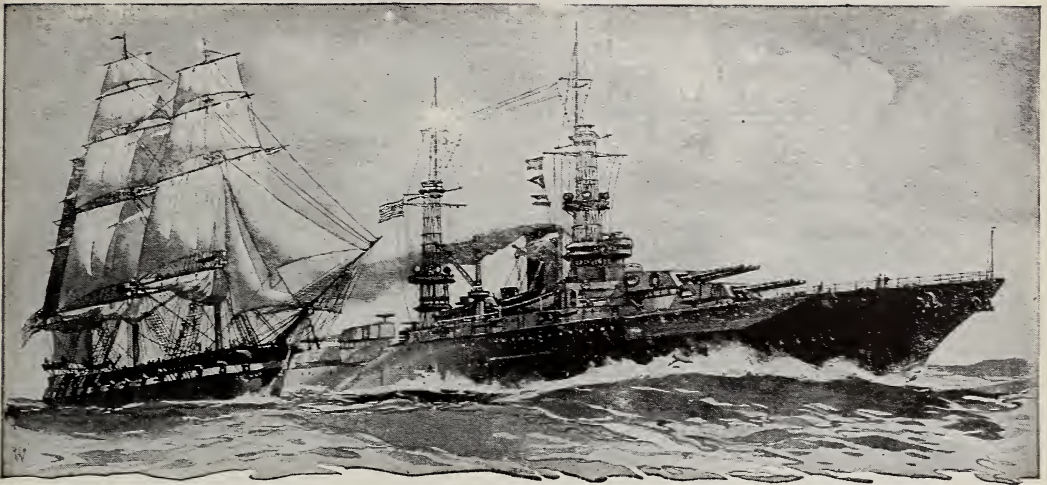
3. Groups of workers in outside occupations who also have some home duties.

4. Groups of women employed in outside occupations who wish training to become helpers in some capacity in the home which will enable them to be more efficient and to demand better wages.

5. Girls employed as part time household assistants.

6. For groups of school girls who will one day be the home-makers of the nation.

It may well be seen that such a program as this cannot be carried out in a satisfactory way without adequate funds.



The "Constitution" of To-day—Electrically Propelled

THE U. S. S. "New Mexico," the first battleship of any nation to be electrically propelled, is one of the most important achievements of the scientific age. She not only develops the maximum power and, with electrical control, has greater flexibility of maneuver, which is a distinct naval advantage, but also gives greater economy. At 10 knots, her normal cruising speed, she will steam on less fuel than the best turbine-driven ship that preceded her.

The electric generating plant, totaling 28,000 horsepower, and the propulsion equipment of the great super-dreadnaught were built by the General Electric Company. Their operation has demonstrated the superiority of electric propulsion over old-time methods and a wider application of this principle in the merchant marine is fast making progress.

Figures that tell the Story of Achievement

Length—624 feet
Width—97 feet
Displacement—32,000 tons
Fuel capacity—a million gallons (fuel oil)
Power—28,000 electrical horsepower
Speed—21 knots

Six auxiliary General Electric Turbine-Generators of 400 horsepower each, supply power for nearly 500 motors, driving pumps, fans, shop machinery, and kitchen and laundry appliances, etc.

Utilizing electricity to propel ships at sea marks the advancement of another phase of the electrical industry in which the General Electric Company is the pioneer. Of equal importance has been its part in perfecting electric transportation on land, transforming the potential energy of waterfalls for use in electric motors, developing the possibilities of electric lighting and many other similar achievements.

As a result, so general are the applications of electricity to the needs of mankind that scarcely a home or individual today need be without the benefits of General Electric products and service.

An illustrated booklet describing the "New Mexico," entitled, "The Electric Ship," will be sent upon request. Address General Electric Company, Desk 44, Schenectady, New York.

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your friends to spend a
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SELECTING APPLES

(Continued from page 65.)

means have your apples all the same size and all the same color.

The last point to be considered is condition. This means freedom from defects of whatever kind. Under this head would come insect injuries, such as worm holes, scale and aphid marks; mechanical injuries, spray russetting and frost russetting, both of which seem to be quite common this year. Also diseases, such as scab, blotch, cedar rust, sooty blotch and spot. To attempt a comprehensive description of these different defects is quite beyond the limits of this article. All of them are important from the show standpoint of the fruit grower so a thorough knowledge of them is essential. Under condition is also included ripeness and here the big thing to avoid is the selection of overripe specimens. Fruit that

is overripe will not stand packing and is lacking in general appearance.

With the points of the score card clearly in mind, the exhibitor is in a position to exercise his best judgment and with practice can select the best specimens from the fruit that is available.

FROM THE ROADSIDE WEED

(Continued from page 59)

the road and get a few dozen blossoming sweet clover plants which were growing there and put them in the fire place. That same farm today has some sixty acres of sweet clover which has proven very satisfactory this far. This change of attitude toward sweet clover is becoming very general.

Sweet clover cannot be changed to meet many present day ideas of farming but I believe that many ideals of crop size will be reached sooner if they are routed over the sweet clover route.

Nitrate of Soda

**IN CAR LOTS AT LOWEST
WHOLESALE PRICE**

Likewise less than car lots for shipment at all times from Columbus, O. Also Nitrapo (15% nitrogen, 15% potash) and all domestic and foreign potash salts. Also manufacturers of

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AND was the choicest turkey in the barnyard, if you were the best apple in the orchard, or the best roast in the shop, or the plumpest potato in the bin, or the choicest cake in the bakery, or the juiciest pie in the oven —

If you were the best that could be had in the way of SOMETHING TO EAT, it's Ten to One you'd be served at

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C. G. Williams, Agronomist Ohio Agriculture Experiment Station; Geo. C. Humphrey, Head of Animal Husbandry Dept., University of Wisconsin; Florence Forbes, Member of Executive Committee of National American Poultry Association; R. C. Yeoman, Agricultural Engineer, and Blanche Swainhart, expert in Home Nursing and Prevention in Diseases, are the authors of the texts which we use.

Courses in Soils, Farm Crops, Crop Pests and Plant Diseases, Stock Raising, Poultry Raising, Farm Engineering, First Aid and Home Nursing, Child Welfare, and many others are given. These courses go on continually.

We Need More Representatives and Organizers.

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1569 NORTH HIGH ST.

COLUMBUS, OHIO

THE DAIRY DEPARTMENT

(Continued from page 61.)

having the highest average production of any association in the United States. Its average yearly butterfat record for last year was 345 pounds per cow. Figuring milk at the current price paid these producers, calves at current prices and the fertility used to increase the crop production; these men were left 90c to pay them for the labor required to produce 100 pounds of milk, which is equivalent to 27c an hour. These men were highly specialized dairymen, having cows that produced far above the average, and put most of their energies into the producing end of the business. How many professional and industrial workers, who are specialists in their various line would render services for 27c an hour?

The solution of the problem is for each family to own a cow and furnish

its own milk supply, but how many people are willing to do this? Very, very few take advantage of this opportunity, for it is much easier and more pleasant to procure the milk from the milkman who leaves it every morning, usually before the consumer is up, regardless of the weather. Under the law of equal rights to all, if such work is undesirable to the consumer, should he not be willing to pay the producer a fair price for his services? It is more a matter of ignorance or thoughtlessness on the part of the average consumer than the desire to be unjust to his fellowman, that prompts him to take the attitude which he does in the matter.

The work of the Department of Dairying is to educate first, the dairyman, teaching him to introduce efficiency into his work, improve his conditions and furnish the best possible

(Continued on page 80.)

LOBSTER and Live Sea Foods

**FISH—TROUT, ENGLISH FLOUNDERS, BOSTON BLUE
FISH, HALIBUT AND COD**

For those who do not care especially for sea food our
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Omelets, Resota Plate Dinners, Chicken, Italian
Style, with Resota and Spaghetti, Etc.,**

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Yesterday it did things that *made world war history*.

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The five ton "Caterpillar" is different from any tractor ever built. It develops upwards of 3,100 pounds draw bar pull. Plowing speed three miles per hour. Pulls easily four 14 inch plows, 8 to 10 inches deep. Carries and lays its own track.

If you should strike a mud or sand it can't stop the "Caterpillar". Turns in its own length, making close fence corner work simple. Equipped with three speeds and reverse. Travels on the road over five miles per hour.

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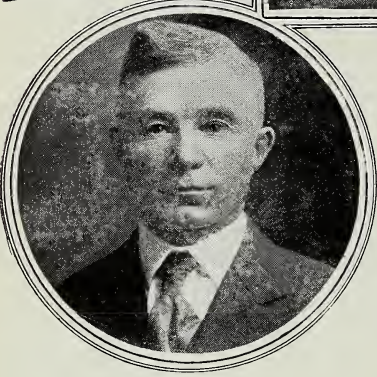
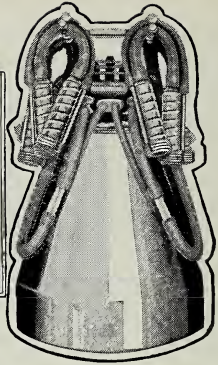
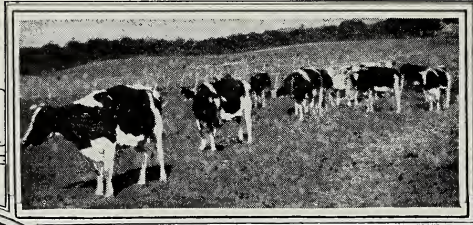
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"Our Perfection is the best milker we've ever had," said E. J. Atkins when asked how he liked his milker. He held up his hands and looked at them. "You know at this time of year when a farmer is using tools, his hands get stiff and hard and no matter how much he tries to milk gently, he simply can't do it. His hands hurt the cows and the milk falls off. I've seen it happen many a time. But since we've been milking with the Perfection, our cows are milked with a gentle downward squeeze the year 'round. The cows like it better than hand milking."

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"I hardly ever milk any more myself. My two boys, 12 and 14, handle the job alone with the Perfection Milker. I can tell you there's nothing more popular around this place than our Perfection."

"Our Perfection Milker has been just like a catching disease in this neighborhood. As soon as I got it everybody else saw it and wanted it. There are quite a number of Perfections around here now."

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It's not necessary to add anything to what Perfection owners say. Their own words are selling Perfection Milkers as fast as they can be installed. We'll gladly send you names and addresses so you can investigate for yourself. Also a free copy of "What the Dairyman Wants to Know," the great book which answers every question about milking machines. Write. Today.

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We are offering four Young Bulls for Sale

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SPLENDID INDIVIDUALS
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All Backed by Yearly Rerords.

Bull born May 23, 1919. Extra well marked, square and well shaped. A splendid individual and bred in the best of blood lines. His dam, **Lothian Ruth Pietertje Korndyke No. 315679** A. R. O., at 1 year, 11 months, 28 days, milk, 7 days, 408.5, butter 17.378; milk, 30 days, 1,726.1, butter 72.818; milk, 7 days, 8 months from calving, 261.9, butter 12.502; milk, 365 days, 15,288, butter, 365 days, 688,072. Sire of calf **Sir Ona Clothilde De Kol No. 241466**. His sire is backed by the best of yearly backing over 1,000 lbs. butter and over 25,000 lbs. of milk. This young bull is all right every way.

A high class individual, well marked, slightly more white than black. Born April 18, 1919.

His Sire—**Lothian Maggie De Kol's Son**, a young bull that will soon have several good record daughters. He is from **Lothian Maggie De Kol** with a year record of 1238.5 lbs. butter from 7967.6 lbs. milk.

His Dam—**Lothian Margaret De Kol Korndyke**, a daughter of **Pieterje Hengerveld Sir Korndyke** with a record of 28.9 lbs. butter from 560 lbs. milk in 7 days and 117.2 lbs. butter from 2200 lbs. milk in 30 days as a 4-year-old, and a 305-day record of 14,405 lbs. milk and 645.4 butter as a 3-year-old. Her dam has a record of 27.6 lbs. butter in 7 days, 90.5 lbs. in 30 days and 680.7 lbs. butter from 14,639 lbs. milk in 362 days.

It will be noted the three nearest dams of this calf all have good semi-official records.

He is well-grown right in every way and is priced very reasonable for immediate acceptance.

The Other Two Bulls Have Equally as Good Breeding.

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THE DAIRY DEPARTMENT

(Continued from page 76.)

milk supply to the consumer. Then the consumer should be educated regarding the food value of milk and the importance of paying a price for it which will insure the producer a living wage.

Closer cooperation of producer, dealer and consumer will have much to do with the solution of the present problem and it is the aim of the Department of Dairying to do everything possible to further this cooperation. The principles of justice and right demand a fair profit for producer and dealer and a fair cost to the consumer and it is only through combined efforts that this can be obtained.

(Continued from page 59)

enough water to operate the control system. Consequently, practically all water used comes directly from well or cistern. Fig. 2 shows such a pumping unit.

DAIRY CATTLE JUDGING TEAM AT NATIONAL DAIRY SHOW

With fifteen teams of three men each competing in the Student's National Contest in judging dairy cattle at the National Dairy Show, Warren T. McVey of Ohio State University, ranked third. E. T. Lenhart and J. Leo Hirsch were the other members of the team. The men were required to place a ring of bulls, a ring of cows, and a ring of heifers, in each of the four dairy breeds. The standing was third on Holsteins, fourth on Jerseys, fifth on Ayrshires, and twelfth on Guernseys.

Mr. C. T. Conklin was coach of the team. Prior to the Chicago trip, the team visited Northeastern Ohio. Some of the best herds in the state were studied. During the second semester it is planned to form another team.



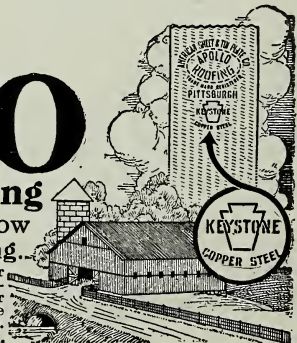
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FINDERNE PRIDE FAYNE

FORGET HIS SIRE—

King Hengerveld Aaggie Fayne—one of the best bulls that ever lived.

FORGET HIS DAM—

Finderne Pride Johanna Rue—"The highest record long distance cow now living."

Look at Work of His Daughters

One of his daughters has made over 37-lb., another is Ohio State Champion junior 4-year-old for milk production with 675 lbs.

In the light of these achievements and the opportunity he is to have, can there be any question about his success as a sire?

Meadow-Holms Farms

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Chesterland, Ohio

H. B. GOODING
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INSURANCE *Costly Clothes Should Be Properly Cared For*

YOUR GOODS Insured Against Loss by Fire or Theft.

We Operate Our Own Cleaning Plant, Insuring Efficient Service.

The LEHMAN Co.

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DELIVERY SERVICE

NEWS NOTES

As a result of the decreased interest in Holstein production, M. H. P. Pollock, of Illinois, has been given charge of directing and stimulating the work in Ohio. With the assistance of the county agents, it is Mr. Pollock's intention to build up the Ohio Holstein Association.

The following county agents have been appointed: Mr. E. A. French, Ashland Co., Mr. T. A. Wheeler, Holmes Co., Mr. F. S. Hagy, Hardin Co., and Mr. W. P. Brodie, Cuyahoga Co.

During the first week in November, a state convention was held for county agents and extension workers. The chief topics discussed were "Marketing" and "Rural Organizations." The speakers were Prof. B. H. Hibbard from the University of Wisconsin, Prof. R. E. Hieronymus, Community Adviser from the University of Illinois, Prof. E. D. Sanderson, Rural Organization Dept. at Cornell, Prof. M. T. Frame, Director of Extension of W. Va., and Prof. K. L. Butterfield, Pres. of Amherst Agricultural College.

A survey of the efficiency of the extension work is being made in four counties by O. M. Johnson of the extension department. A favorable report was made by him at the meeting of the American Association of Agricultural Colleges held at Chicago on November 1st.

Short Ag. registration this year totals 231 students, of which 55 are Federal Board students. This brings the total registration to 1133 in the Agricultural College.

At the meeting of the State Grange in Columbus during December, Ohio State will hold a place of honor and responsibility. Two members of the reception committee of three are members of the University Grange. The

(Continued on page 86.)

C. K. SEIBERT, President
I. D. SEIBERT, P. & Gen'l Mgr.
G. H. WOODROW, Sec'y & Treas.

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It's good farm practice RIGHT NOW to deepen and clean out old ditches, dig new ones, or straighten the course of that meandering stream through the back pasture.

On many farms, one man with Hercules dynamite can do the work of six men with picks and shovels and take out earth at lower cost per cubic yard. We have figures to prove this.

Write our Agricultural Department and state the length, width and depth of your desired ditch, the kind and condition of the soil, etc., and let us tell you the percentage of dynamite to use. If the work warrants it, we will send an agricultural service man to your farm, after shipment of Hercules dynamite and blasting supplies have been purchased from your dealer. He will show you and your help how to use dynamite in ditching and for other purposes on the farm.

Send for a copy of "Progressive Cultivation" and learn all about the use of dynamite for ditching, stump and boulder blasting, tree planting, and subsoiling.



The Agricultural Department
HERCULES POWDER CO.
WILMINGTON, DEL.



Please send me a copy of "Progressive Cultivation." I need dynamite for
 Removing.....stumps fromacres.
 Digging.....rods of ditch.
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Easy to use—very low in price—and it costs you nothing unless you're satisfied that your hogs show big returns in freedom from disease and more fat from the same feed.

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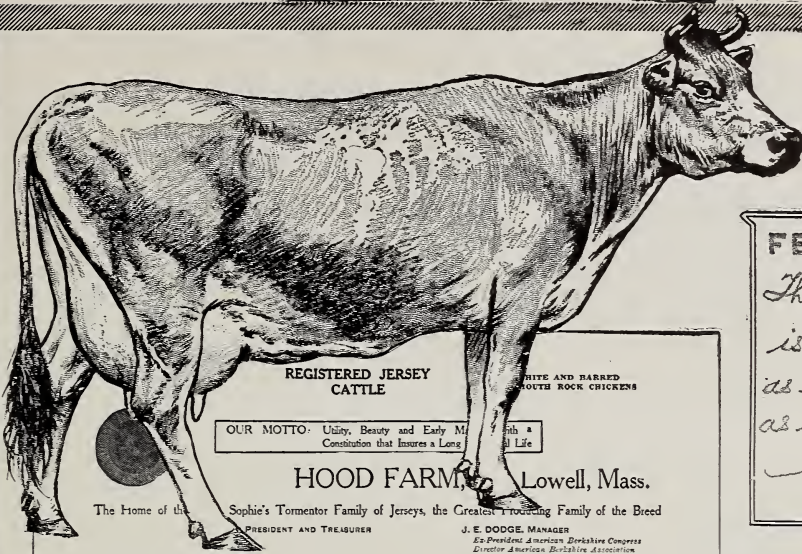
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FEED UP

*The Feeding
is every bit
as important
as the Breeding*

JED-ESW.

May 6, 1910.

Mr. R. P. Walden,
Corn Products Refining Co.,
17 Battery Place,
New York, N. Y.

Dear Sir:-

Yours of May 2nd at hand. I would state that as usual in her former tests, Sophie 19th of Hood Farm consumed a large proportion of Buffalo Corn Gluten Feed, ranging from three to four pounds per day during the entire year. She is now at fifteen years of age in perfect physical condition and is due to calve in August, and we look for another large record from her, showing that the feed she has consumed in past years has done her no harm. It is safe to say she has consumed while making her eight yearly records over six tons of Gluten Feed.

Yours truly,

Hood Farm,



Made by

Corn Products Refining Co.
New York Chicago

UNIVERSITY RESTAURANT

We Serve the Very Best
For the Money.



American and Italian
Dishes



Prices Reasonable.
1622 NORTH HIGH STREET

NEWS NOTES

(Continued from page 82.)

first night's reception will be held on the Campus and at the Armory, College stunts by the local Grange being the big feature. On the second night University girls will put on a drill for the sixth degree. The University will also put on the fifth degree in the afternoon of the same day. Master Carl has announced that if there is any Grange in the state with at least 50 candidates for the fifth degree, the University will send their team to put it on. Prof. Coffey of the Animal Husbandry Dept., will have charge.

Townshend Agricultural Society had a wiener and marshmallow roast at Glen Echo on Oct. 17. Fifty couples enjoyed the feast. The social committee is now planning for a dance November 15.

CHURCH SURVEY

The leading protestant churches have inaugurated what is known as "The United-Church World Movement," in which surveys will be made of all churches in the United States. The work is now in progress in the rural communities, including villages below 5000 in population. A man in each county has from three to six helpers, and one of these men will visit each church and fill out a questionnaire which will give information concerning the pastor, and the condition of the church and community. This information will be used by the churches to work out a definite program of church work in each community. Anyone interested should get in touch with Rev. B. F. Lamb, Columbus Savings and Trust Bldg., Columbus, Ohio, who is supervisor of the survey in Ohio.

FOR FARM BUTTER OR CHEESE MAKING HANSEN'S Dairy Preparations

PURE, concentrated, ready to use, absolutely reliable. Giving uniformly best results in the country's finest creameries and cheese factories.

For Cheese-Making: Hansen's Rennet Tablets, Junket Tablets (for Cottage Cheese), Cheese Color Tablets.

For Butter-Making: Hansen's Danish Butter Color (4 oz. and 1 oz. bottles), Hansen's Buttermilk Tablets or Lactic Ferment Culture for perfect ripening of cream for butter and milk for cheese and commercial buttermilk.

Sold by drug and dairy stores, or direct by

CHR. HANSEN'S LABORATORY,

Incorporated
Little Falls, N. Y.

Interesting treatise "The Story of Cheese,"
J. D. Frederiksen, free on request.

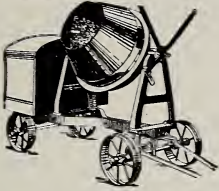
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Concrete Mixers

With or without Power. Built in many sizes. Send for Mixer Catalogue and Book on "How to Make Concrete."

The JAEGER MACHINE Co.

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TIMELY SOILS TOPICS

We are in receipt of this book written by Profs. Bear, Barker, Bachtell and Dustman. It is the outgrowth of a series of four page pamphlets written monthly during the year 1918-19 by members of the Department of Agricultural Chemistry and Soils of Ohio State University. Only a limited number of these were produced and the call was so great that the material contained in the first thirteen numbers was assembled in one volume and published in book form.

We find discussed the various topics in such a way that the subject matter is easily read but at the same time drives home the important points. It is minus that technical style that most readers shun. We find discussed the various legumes, their habits, methods of culture, value to the farmer, etc. Then, too, topics as Constructive Rotations, Permanent Pastures, etc., are discussed giving the reader the main point of view on such subjects.

All in all it is a well written little

volume on soil subjects that is worth consideration by the students and followers of Agriculture as well as the farmer himself.

FLOWER GARDENS SUFFER

On June 1st of this year a quarantine was issued which will restrict the importation of many of our finest flowers which were received yearly from foreign countries. The quarantine is directed against the importation of foreign insect pests and plant diseases, the contention being that America should restrict the entrance of any more pests into our country. But this is a serious blow to the florists and nurserymen of this country. It effects principally the importation of our greenhouse azaleas, boxwoods, evergreens, perennial plants of the choicer varieties, hydrangeas and orchids, the main varieties of roses, and all of the bulbs except lilies, narcissi, hyacinths, tulips and crocuses, and therefore, excludes gladiolus, tuberous rooted begonias, freesias, gloxi-

(Continued on page 92.)

CLUB PINS for Boys' & Girls' AGRICULTURAL CLUBS

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BASCOM BROS.

1585 North High Street

COLUMBUS, OHIO

DAIRY PRODUCTS JUDGING TEAM WINS SILVER CUP

At the National Dairy Show in Chicago the Ohio State University Dairy Products Judging Team won the silver cup offered by Hoard's Dairyman for the team securing the highest rating in judging cheese. The local team ranked third in judging milk, and fourth in butter.

Out of the twenty-seven men on nine teams, the Ohio State men ranked as follows: Gilbert Boehm, senior, of Springfield, second; Roland Kennedy, junior, of Columbus, fourth; and John Pontius, senior, of Canton, sixth. Prof. R. S. Stoltz of the Department of Dairying, had charge of the team.

Nine schools competed, Maryland State College of Agriculture, New Hampshire College, Ohio State University, South Dakota State College, Purdue University, University of Nebras-

ka, Washington State College, Cornell University, and Iowa State College. Iowa won first in butter, South Dakota first in milk. Three men representing each school judged ten cheeses, ten tubs of butter and ten bottles of milk.

FARM POWER CONFERENCE

A conference was called in Chicago October 6 and 7 by D. F. Houston, Secretary of Agriculture, to discuss the question of investigation of farm power in the Central West. The meeting was attended by agricultural engineers, by farm management instructors, by representatives of the tractor industry, representatives from the Bureau of Farm Management, Office of Public Roads, and Rural Engineering, by horsemen and farmers. Professor H. C. Ramsower of the Department of

(Continued on page 90.)

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GIVE US A TRIAL.

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Our Corsage Bouquets are original and sure to please the Ladies

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Be a Business Farmer

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You are in school to equip yourself to make farming a better business.

When you leave to begin the active work of farming you can do full credit to your school and to yourself only by being a good business farmer right from the start.

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These implements are continually going out from the sixteen John Deere factories to help make farming a better business.

For 80 years they have been the choice of the majority of good business farmers—of men who want the best implements they can get.

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Agricultural Engineering of this State University, was present at the conference.

A set of recommendations was drawn up to be presented to Secretary Houston covering problems worthy of study in the farm power field. This includes such questions as tractor power, horse power, field machinery and power in the farm home. Remarkable interest was shown by all present and all seemed to feel the importance of the matter and were eager to start investigations leading to a statement of the relative cost and economy of tractor power as compared to horsepower and similar questions.

The intention was that these recommendations should be carried out by the U. S. Department of Agriculture in cooperation with state colleges and experiment stations. They will be presented before meetings of agricultural

engineers and implement men as well as before meetings of horse breeders in an effort to get their support of these measures.

R. I. M.

NOTES FROM THE SOILS DEPT.

The Soils Department has made some valuable contributions to the field of scientific literature during the last few months. Albert C. Workman's thesis on Ammonia Fixing Capacity of Calcium Sulfate, has been published in Soil and Science. An article from the department on Nitrogen Losses in Urine, will soon be published in the Journal of the American Society of Agronomy, a work on Sampling Soil in Plots is ready for publication, and Timely Soil Topics, has been published in volume form, and will be reviewed in this publication at some early date.

Mr. Joseph F. Baker, of the Soil Ex-

(Continued on page 92)

Doubly Welcome

you are when you come with a box of our toothsome candies. Every woman's heart melts at the sight of luscious sweets, such as we sell. Step in today and get a pound or two-pound package as a special gift for her. Select your own assortment if you like.

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NEIL AVENUE ACADEMY

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BEGINNERS' CLASS organizing Wednesday evening,
November 19, 7:30 P. M.

Assembly Nights—Mon., Thur., Fri. and Sat.

Tuition for Beginners—Per term of 10 lessons, ladies \$5, gentlemen \$6; juveniles, per term of 12 lessons, \$5; private lessons, 5 for \$6.

Tuition can be paid \$1 a lesson until paid. Private lessons can be had afternoon or evening. We aim to teach you to dance in one term.

OAK STREET ACADEMY—827 Oak St.

Phones—Citiz. 7105; Residence, Citiz. 4431; Main 6189

A strictly private place for club dances, card parties and for classes that organize for special instruction.



NOTES FROM THE SOILS DEPT.

(Continued from page 90.)

tension Department, has resigned to take a position as salesman for the Crellin Realty Co. of Columbus.

The first crop has been harvested from the fertility plots on the University Farm, but it is too early to report results. All but ten plots were in oats, corn being grown on those ten plots. Twenty plots of the oats were seeded to clover, and twenty plots will be sown to wheat this fall. Reports from these plots will be published as they become available.

FLOWER GARDENS SUFFER

(Continued from page 87.)

anias, bulbous iris, and tuberoses. It would not seem that conditions are sufficiently serious to warrant the imposing of such a stringent embargo without giving the florists and nurserymen a little time to prepare and adjust it. And it would seem that the terms of quarantine place undue blame for the introduction of pests upon our ornamental materials. Of course, in time it may be possible for us to grow all of these various plants for ourselves, but for many of them our conditions are not favorable and our labor would seem to be too expensive. It would not seem as though the Federal Horticultural Board had consulted at all with the horticulturists of the country so that they might have made a fair quarantine against pernicious pests which in the case of many of the plants are merely imaginary dangers. Dr. B. T. Gallo-way of the Bureau of Plant Industry, affirms that "the quarantine is here and will stand forever."

The only relief will be protest by those who are opposed to the arbitrary action of the federal horticultural board.

**NO RAISE
IN PRICES**

—AT—

**The Community
Shoe Repairing Co.**

Sixteenth and High

**REBUILDING OF SHOES IS
OUR BUSINESS****Best Material and Workmanship.****Rubber Heels While You Wait.****Citz. 11217**

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**SWEET CIDER
and
GINGER BREAD**Have You Tried Our Doughnuts?
Fresh Daily.Our Cinnamon Rolls Have No
Equal—Try Them.Just Received a Fresh Shipment
of Chestnuts.Salted Jumbo Peanuts Our
Specialty.**N. HIGH ST., OPP. EAST 11th
Both Phones**

Insures Cow Health

THE insulating blanket of still air in a Natco stable wall prevents sudden temperature changes. It protects the health of your cows and keeps up the milkflow in uncertain weather. Natco Hollow Tile walls do not gather moisture as do walls of solid masonry, nor do they absorb grease, dirt or foul odors.

Natco Barns

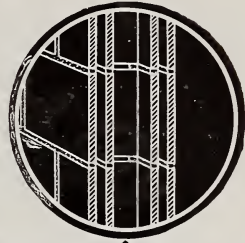
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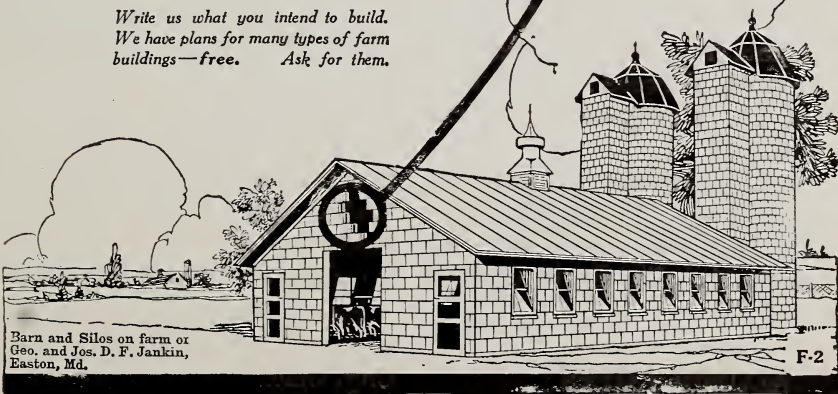
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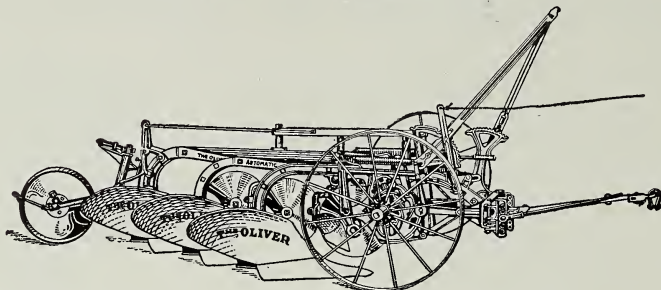
*Barn and Silos on farm of
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F-2

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Those registered in the graduate school to major in soils are, George Valley registered for Ph. D.; Richard Bradfield, a graduate of Otterbein University for Ph. D.; Charles Thrash who had been in the gas service; Guy Dowdy and Samuel F. Heukel, former county agents from West Virginia; and Mr. Clarence Underwood from the University of W. Va.; registered for their master's degree.

George McClure has registered for Ph. D., majoring in agricultural chemistry, and Guy Conrey will finish his requirements for Ph. D. in Geology next June.

ALUMNI NOTES

(Continued from page 69)

William L. Cleavenger, '06, who served eleven years in the Dairy Dept. at

Ohio State, is now with the Dairy Division of the United States Department of Agriculture, and is engaged in extension work in Tennessee and North Carolina. His many friends were glad to meet him again while attending the Ohio State Fair, where he judged the butter and cheese.

J. M. Cadwallar, '10, is head of the Dairy Department in the Louisiana State College of Agriculture, located at Baton Rouge.

Edward F. Rinehart, '10, is engaged in extension work for the University of Idaho. He is promoting the animal husbandry interests in that state, and is making his home in Rupert, Idaho.

Harry Linbaugh, '11, is making a business of dairy farming near Grove City, Ohio.

Orville A. Jamison, '12, for the past year has been acting head of the Dairy Department in the Massachusetts Agri-

cultural College at Amherst. He is now manager of a milk plant in Massachusetts.

Earl Jones, '12, is connected with the Department of Agronomy in the Massachusetts College of Agriculture and has charge of one of the divisions in that department.

Herbert Otting, '13, is superintendent of laboratories for the Nestles Food Co. Their offices are in New York City.

Lewis S. Work, '13, is superintendent of the Springfield Dairy Product Co. They have branches in Springfield, Thackery, West Liberty and Xenia. Mr. Work is located in Xenia.

William O. Frohing, '15, is in charge of the Tellings Belle Vernon Company's laboratories in Cleveland. He has been working for this company since his graduation. The past summer there were five Ohio State men in his employ.

John O. Barkman, '15, is teaching in the University of Kentucky. He is also in charge of dairy manufacturing. Previous to this year he was engaged in commercial work.

Chauncey Lang, '18, who served eight months over seas, is now in charge of the Smith-Hughes work in the Brookville Centralized Schools.

W. W. Smelker, '16, is connected with the Cleveland Tractor Company as Sales Engineer.

Vergil Overholt, '15, after being in the service for two years, has returned to Ohio State and resumed his position as Extension Specialist in Agr. Engineering.

Chas. F. Sprague, '19, formerly on the staff of the Agricultural Student, is at present with the Cleveland Tractor Co. in the capacity of Agr. Adviser.

H. G. Chambers, '18, is also with the Ohio Moline Plow Co. as expert tractor man.

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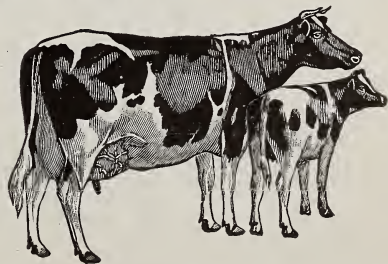
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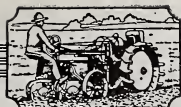
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